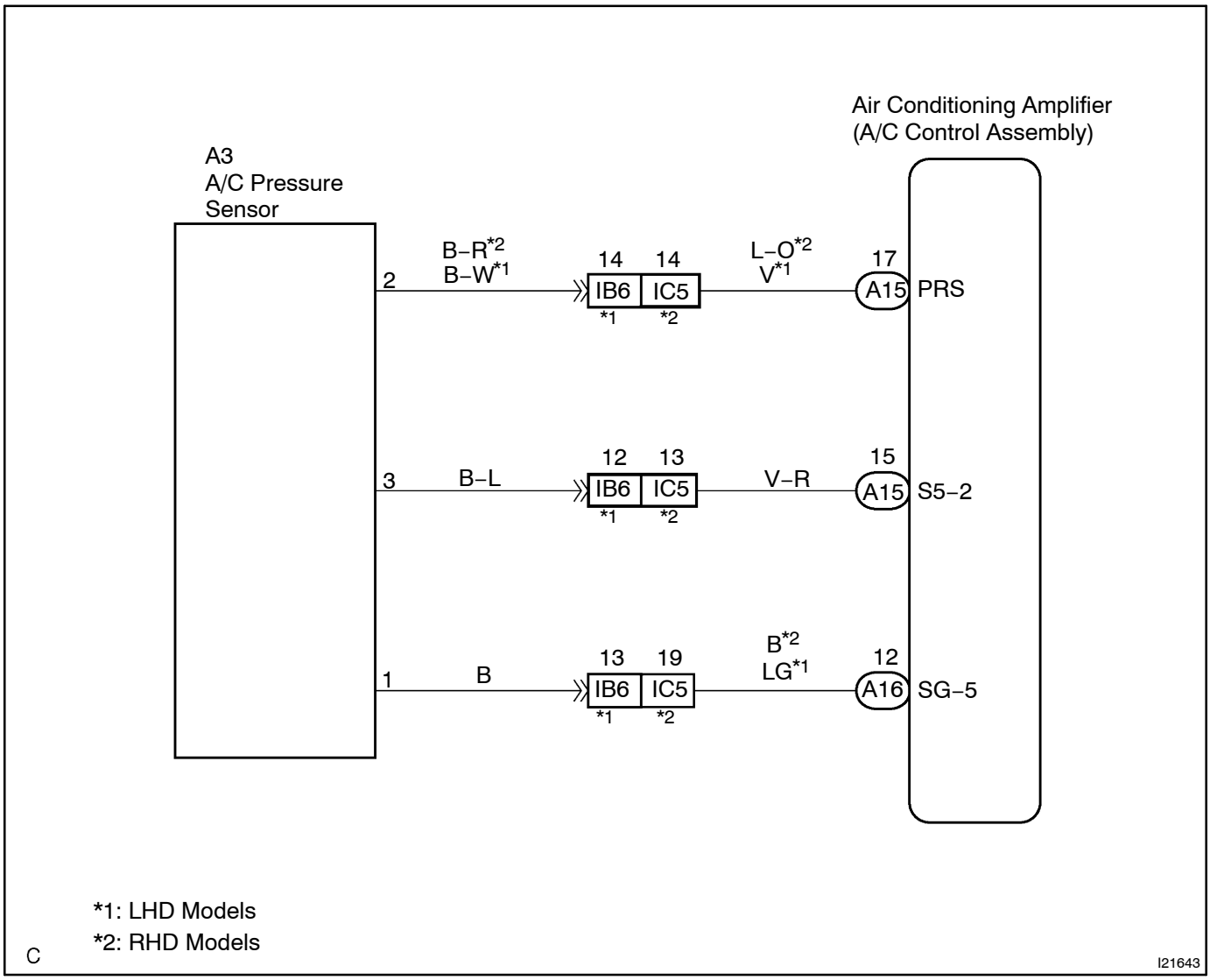
DTC B1423 PRESSURE SWITCH CIRCUIT

CIRCUIT DESCRIPTION

The pressure switch sends the appropriate signals to the A/C amplifier when the A/C refrigerant pressure drops too low or rises too high.
G.C.C. Countries Models:
When the A/C amplifier receives these signals, it outputs signals through the A/C amplifier to turn the A/C COMP relay off and turns the magnetic clutch off.
Except G.C.C. Countries Models:
When the A/C amplifier receives these signals, the compressor does not compress refrigerant.

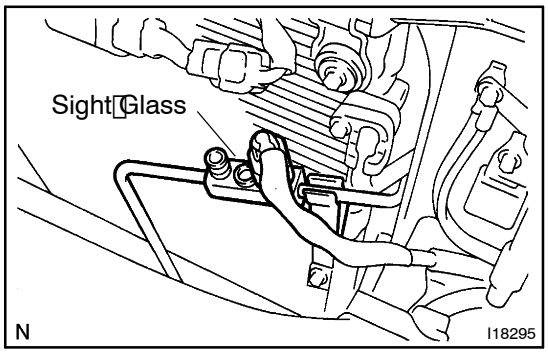
DTC No.	Detection Item	Trouble Area
B1423	Pressure switch circuit (open or short)	• A/C Pressure sensor • Harness or connector between A/C pressure sensor and A/C amplifier • Refrigerant pipe line • A/C amplifier

WIRING DIAGRAM



INSPECTION PROCEDURE

1 CHECK REFRIGERANT VOLUME



(a) Check the sight glass on the liquid tube.
Test conditions:

- Engine is running at 1,500 rpm
- Single A/C:
  Blower speed control switch at "HI" position
- Dual A/C:
  Front blower switch at "HI" position
  Rear blower switch at "HI" position
- A/C switch ON
- Single A/C:
  Temperature control switch at "MAX. COOL" position
- Dual A/C:
  Rear temperature control switch at "MAX. COOL" position
  Front driver side temperature control switch at "MAX. COOL" position
  Front passenger side temperature control switch at "MAX. COOL" position
- Fully open the doors

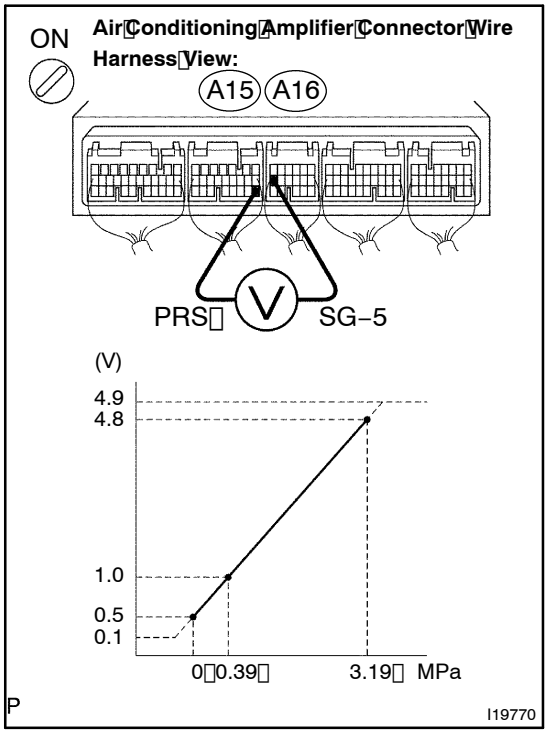
Item	Symptom	Amount of Refrigerant	Corrective Actions
1	Bubbles exist	Insufficient*	(1) Check for gas leakage and repair if necessary (2) Add refrigerant until bubbles disappear
2	No bubbles exist	Empty, insufficient or excessive	Refer to 3 and 4
3	No temperature difference between compressor inlet and outlet	Empty or nearly empty	(1) Check for gas leakage with gas leak detector and repair if necessary (2) Add refrigerant until bubbles disappear
4	Considerable temperature difference between compressor inlet and outlet	Proper or excessive	Refer to 5 and 6
5	Immediately after air conditioning is turned off, refrigerant clears	Excessive	(1) Discharge refrigerant (2) Remove air and supply proper amount of purified refrigerant
6	Immediately after air conditioning is turned off, refrigerant foams and then becomes clear	Proper	–

*: Bubbles in the sight glass with ambient temperature higher than usual can be considered normal if cooling is sufficient.

NG → CHARGE REFRIGERANT (SEE PAGE 55–11)

OK

2	INSPECT AIR CONDITIONING AMPLIFIER (PRS, SG–5)



(a) Remove the A/C amplifier with connector still connected.
(b) Install the manifold gauge set (see page 55–5).
(c) Turn the ignition switch to the ON position.
(d) Measure the voltage according to the value(s) in the table below.

OK:

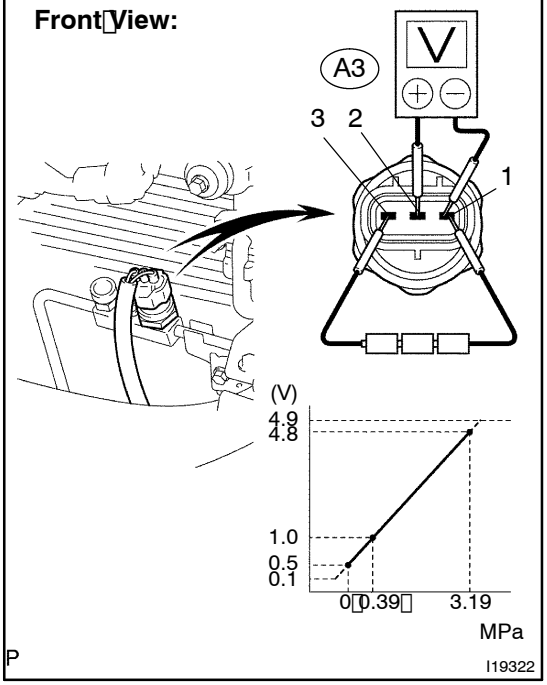
The voltage depends on the refrigerant pressure as shown in the chart.

NG → **Go to step 3**

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (SEE PAGE 05–778)

3 INSPECT A/C PRESSURE SENSOR



(a) Disconnect the A/C pressure sensor connector.

(b) Install the manifold gauge set (see page 55–5).

(c) Connect the positive (+) lead from the three 1.5 V dry cell batteries to terminal 3 and negative (–) lead to terminal1.

(d) Check voltage between terminals 2 and 1 of A/C pressure sensor.

OK:

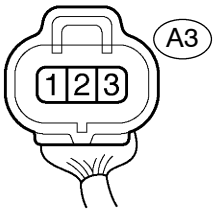
The voltage depends on the refrigerant pressure as shown in the chart.

NG → **REPLACE A/C PRESSURE SENSOR**

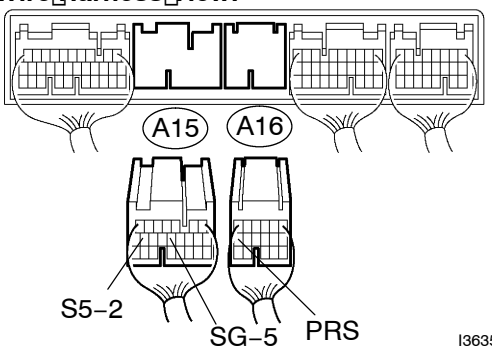
OK

4	CHECK HARNESS AND CONNECTOR(A/C PRESSURE SENSOR – AIR CONDITIONING AMPLIFIER) (SEE PAGE 01–44)

A/C Pressure Sensot Connector Wire Harness View:



Air Conditioning Amplifier Connector Wire Harness View:



(a) Measure the resistance according to the value(s) in the table below.

Standard:

Tester connection	Condition	Specified condition
A3–2 – A15–17 (PRS)	Always	Below 1 Ω
A3–3 – A15–15 (S5–2)	Always	Below 1 Ω
A3–1 – A16–12 (SG–5)	Always	Below 1 Ω
A15–17 (PRS) – Body ground	Always	10 kΩ or higher
A15–15 (S5–2) – Body ground	Always	10 kΩ or higher
A16–12 (SG–5) – Body ground	Always	10 kΩ or higher

Result:

NG	A
OK (Checking from the PROBLEM SYMPTOMS TABLE)	B
OK (Checking from the DTC)	C

A → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

B → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (SEE PAGE 05–778)**

C

REPLACE AIR CONDITIONING AMPLIFIER (SEE PAGE 55–16)